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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,785	07/25/2005	Linda Lefevre	Serie 6048	4802
Linda K Russell Air Liquide Intellectual Property Department Suite 1800 2700 Post Oak Boulevard Houston, TX 77056			EXAMINER YANG, JIE	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 02/17/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/511,785

**Applicant(s)**

LEFEVRE ET AL.

**Examiner**

JIE YANG

**Art Unit**

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 16, 17, 19-22, 24-28, 30 and 31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16, 17, 19-22, 24-28, 30 and 31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This is to acknowledge the receipt of "applicant argument/remarks" filed on 12/09/2008. Claims 1-15, 18, 23, and 29 has been cancelled; claims 26, 27, 30, and 31 have been amended; and claims 16, 17, 19-22, 24-28, and 30-31 are pending in application.

#### ***Status of the Previous Rejection***

Previous rejection of claim 30 under 35 U.S.C. 112, the second paragraph is withdrawn in view the applicants' amendment filed on 12/09/2008.

Previous rejection of claim 29 under 35 U.S.C. 102(b) as anticipated by Wunning (US 5452882) is withdrawn in view the applicants' amendment filed on 12/09/2008.

#### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16, 17, 22, 24, 30, and 31 are rejected under 35 U.S.C. 102(b) as anticipated by Stratton et al (WO 02/44430, thereafter WO'430).

WO'430 is applied to claims 16, 17, 22, 24, 30, and 31 for the same reason as stated in the previous office action marked 7/09/2008.

Regarding the amended feature of adding NO<sub>2</sub> in the selected gases in the instant claims 30 and 31, because WO'430 teaches adding carbon monoxide, methane, water vapor, carbon dioxide,

which are recited in the instant claims, therefore, claims 30 and 31 are still anticipated by WO'430.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO'430.

WO'430 is applied to the claim 25 for the same reason as stated in the previous rejection dated 7/09/2008.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO'430 in view of Baxter (US 5,173, 124, thereafter US'124).

WO'430 in view of US'124 is applied to the claim 19 for the same reason as stated in the previous rejection dated 7/09/2008.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO'430 in view of Andersson (US 5,938,866, thereafter US'866).

WO'430 in view of US'866 is applied to the claim 28 for the same reason as stated in the previous rejection dated 7/09/2008.

Claims 16-17, 20-22, 24-27, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wandke (EP 0869189 machine translation, thereafter EP'189) combined with Boyer (US 5,798,007, thereafter US'007), Lemken (US 6,428,742 thereafter US'742), and Nakamura (JP 63149313, thereafter JP'313).

EP'189 in view of US'007, US'742, and JP'313 is applied to the claims 16, 17, 20-22, 24-27, and 30 for the same reason as stated in the previous rejection dated 7/09/2008.

Regarding the amended feature of CO<sub>2</sub> content of said mixture is between about 30 to about 80% of the total mixture volume as recited in the instant claims 26 and 27, EP'189 teaches the use of a pressurized cooling gas mixture which may preferably comprise carbon dioxide in addition to hydrogen, helium, or mixtures of hydrogen and helium (Abstract, Description section first paragraph, and p.2 paragraph 2 of EP'189). EP'189 further teaches that the gas mixture may comprise up to 30vol% carbon dioxide (Page 2, paragraph 2 of EP'189), which overlaps the range of CO<sub>2</sub> as recited in the instant claims.

Regarding the newly added feature of NO<sub>2</sub> in the instant claim 30, because the NO<sub>2</sub> gas is in the selected gases group, the

previous rejection dated 7/9/2008 is still applied to the amended claim.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP'189 in view of US'007, US'742, and JP'313, and further in view of Baxter (US 5,173,124, thereafter US'124).

EP'189 in view of US'007, US'742, and JP'313, and further in view of US'124 is applied to the claim 19 for the same reason as stated in the previous rejection dated 7/09/2008.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP'189 in view of US'007, US'742, and JP'313, and further in view of Andersson (US 5,938,866, thereafter US'866).

EP'189 in view of US'007, US'742, and JP'313, and further in view of US'866 is applied to the claim 28 for the same reason as stated in the previous rejection dated 7/09/2008.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP'189 in view of US'007, US'742, and JP'313.

EP'189 in view of US'007, US'742, and JP'313 is applied to the claim 31 for the same reason as stated in the previous rejection dated 7/09/2008.

Regarding the newly added feature of NO<sub>2</sub> in the instant claim 31, because the NO<sub>2</sub> gas is in the selected gases group, the previous rejection dated 7/9/2008 is still applied to the amended claim.

### ***Response to Arguments***

Applicant's arguments filed on 12/09/2008 with respect to claims 16, 17, 19-22, 24-28, and 30-31 have been fully considered but they are not persuasive. The arguments related to the amended limitation can refer to the discussion stated above.

In the remark, the Applicant argues:

1) Nitrogen is not one of the components of the claimed cooling gas mixture and Stratton et al (WO 02/44430, thereafter WO'430) teaches the inclusion of nitrogen as one of the components in the gas mixture;

2) EP'189 does not disclose adjusting the composition to obtain an average mixture density that is approximately the same as that of nitrogen; the secondary references, while disclosing a variety of things, fail to provide for the use of a gas mixture having an average mixture density that is approximately the same as that of nitrogen; there is no reasoning as to why one of ordinary skill in the art would combine

these references; and even if the references were combined, they would arguably not lead to the present invention.

In response,

Regarding the argument 1, the Examiner notices that the Applicants use the language of "gas mixture comprises..." in the instant claims 30, 31, 16, 17, 19-22, and 26-28, which does not exclude adding other gases in the gas mixture and there is no limitation in the instant claims which excludes the nitrogen gas in the mixture.

Regarding the argument 2, Boyer (US'007), in the quenching section of a furnace, discloses that in filling the section with hydrogen or helium instead of nitrogen, because EP'189 in view of the secondary references teaches the similar cooling gas system with the composition range overlapping the range as recited in the instant claims as discussed above (also referring the previous office action marked 7/9/2008), a mixture gas with approximately the same density as nitrogen as claimed in the instant claims would be highly expected. MPEP 2112.01. The motivation and discussion for combining the prior arts can refer to the previous office action marked 7/9/2008

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jie Yang whose telephone number is 571-2701884. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-2721244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JY

/Roy King/  
Supervisory Patent Examiner, Art Unit 1793